REMARKS

Applicants have reviewed this application in light of the Final Office Action dated May 3, 2010. Claims 1-17 remain pending in the application. Applicants request reconsideration of the rejection in light of the following arguments is respectfully requested.

Claims 1-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,609,763 to Mukerjee et al. (hereinafter "Mukerjee") in view of U.S. Patent Publication No. 2004/0228413 to Hannuksela (hereinafter "Hannuksela I").

Claim 1 recites, *inter alia*, "predicting the at least one missing or corrupted data for the identified macroblock by motion compensating data from both the first previously transmitted picture and a second previously transmitted reference picture." Claim 10 recites analogous language. The Examiner asserts that Mukerjee teaches this element in FIG. 11 of that reference.

Applicants have demonstrated in their previous responses that neither reference discloses or suggests this element recited in applicants' claim. The Examiner's first argument places great emphasis on the disclosure in Applicants' FIG. 2. However, the rationale for the Examiner's reference to this figure remains unclear. In particular, applicants' specification describes FIG. 2 with respect to temporal-direct prediction in the ITU H.264 coding standard. *See* p. 5, lines 26–29 of applicants' specification. Second, the Examiner has mischaracterized applicants' FIG. 2. In particular, the Examiner asserts that the List 1 Reference frame and the List 0 Reference frame as corresponding to a first and a second previously transmitted frame. This interpretation directly contradicts what applicants show in FIG. 2. In particular, FIG. 2 shows a time axis that places a current bi-predictive frame between the List 0 Reference and the List 1 Reference. According to the figure, the List 1 Reference frame constitutes a *future* frame. This clarification should help the Examiner better understand the applicants' claimed invention.

The Examiner's further arguments misconstrue the teachings of the Mukerjee reference. In particular, the Examiner asserts FIG. 11 of Mukerjee shows the use of two previously transmitted frames. The Examiner specifically points to frame 1140 and frame 1130 as comprising two previously transmitted frames. However, Mukerjee *explicitly* describes frame

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1130 as a *future frame*. Mukerjee states, "To derive implied forward and backward motion vectors ... for the macroblock 1110 being encoded in the B-frame 1120, an encoder scales the motion vector of the corresponding macroblock *in the future reference frame 1130*..." Mukerjee, col. 16, lines 30–35. The Examiner's interpretation stands in direct contradiction to the actual description set forth in the Mukerjee patent.

The Examiner further asserts that Hannuksela 1 teaches the use of two previously transmitted images. The Examiner suggests the phrase "consecutive non-reference pictures" as referring to the previously transmitted images. The basis for the Examiner's interpretation remains unclear as Hannuksela 1 clearly describes the pictures as being consecutive in *decoding order*. In other words, the pictures undergo decoding one after the other, but that does not in any way determine what pictures serve to predict errors. If there is any doubt whatsoever, the examiner should refer to the figures of Hannuksela 1, which clearly show that Hannuksela only makes of a single previous frame in the error correction of any given frame.

Applicants maintain that Mukerjee and Hannuksela, taken alone or in combination, fail to disclose or suggest predicting the at least one missing or corrupted data for the identified macroblock by motion compensating data from both the first previously transmitted picture and a second previously transmitted reference picture. Therefore, claims 1 and 10 warrant allowance. Because claims 2–9 and 11–17 depend from claims 1 and 10 respectively and incorporate by reference all of the elements of their parent claims, claims 1–17 patentably distinguish over the art of record.

In addition, the dependent claims include patentable subject matter separate and apart from that recited in their parent claim. Applicants have these points previously and firmly disagree with the Examiner's rebuttal arguments. For example, claim 3 recites, "wherein the at least one missing or corrupted data is predicted using one of the temporal and spatial-direct modes derivation processes in accordance with at least one criterion selected prior to such predicting." Claim 13 recites analogous language. The Examiner asserts Mukerjee discloses this element by the use of the previous and future frames, as well as in Mukerjee's use of backward and forward vectors for prediction.

In particular, the Examiner argues that Mukerjee's FIG. 11 shows backward and forward motion vectors for prediction, with FIG. 10 showing the selection of the direct mode.

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However, merely selecting a direct mode *does not read on the present claim*. The claim explicitly recites that said selection depends on *at least one criterion selected prior to such predicting*. The Examiner has not shown any such criterion. Indeed, no such criterion exists in Mukerjee, as evidenced by the fact that Mukerjee deals *solely* with temporal concealment and never deals with spatial concealment in any way. The examiner should appreciate this distinction from the fact that Mukerjee's concealment process always uses multiple images and never performs error correction based on information from within a single image. As such, Mukerjee neither discloses nor suggests selection between temporal and spatial modes, based on a *criterion*, as recited in applicants' claims.

Similarly, Hannuksela 1 deals solely with temporal processes and cannot cure the deficiencies of Mukerjee. Applicants respectfully assert that Mukerjee and Hannuksela 1, taken alone or in combination fail to disclose or suggest any spatial process. Further, Mukerjee and/or Hannuksela 1, taken alone or in combination, fail to disclose or suggest using one of a temporal and a spatial process *in accordance with at least one criterion selected prior to such predicting*.

Furthermore, claim 4 recites, "wherein selection of one of the temporal and spatial-direct modes derivation processes is made in accordance with concealment region size." Claim 14 recites analogous subject matter. The Examiner asserts that Mukerjee discloses this element in its selection of motion vector resolutions and filters for bi-prediction frames.

As noted above, neither of the references deals with spatial modes and so they cannot select between temporal and spatial modes. Further, neither reference in any way discloses or suggests selecting based on a criterion. In the same vein, neither reference concerns itself with *concealment region size*. The cited portion of Mukerjee has nothing whatsoever to do with the concealment region size. The remaining portion of Mukerjee likewise does not deal with this issue either. The Examiner's citation of motion vector resolutions seems wholly unrelated to the size of a region to be concealed.

For the same reasons described above, Hannuksela 1 fails to cure the deficiencies of Mukerjee. Therefore, Mukerjee and/or Hannuksela 1, taken alone or in combination, fail to disclose or suggest a selection in accordance with concealment region size.

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In addition, claim 6 recites, "performing the temporal and spatial-direct modes derivation processes; and selecting results of one of the temporal and spatial-direct mode derivation processes in accordance with at least one a posteriori criterion." Claim 16 recites analogous language. **The Examiner has not responded to Applicant's arguments regarding these claims.** Applicant therefore reproduces the earlier arguments for the Examiner's convenience.

To begin with, neither reference clearly discloses any element for performing a spatial-direct mode derivation process. Applicants have discussed this point repeatedly. Yet, the Examiner asserts that Mukerjee discloses this element is disclosed in FIG. 10 of that reference. However, the examiner should appreciate that FIG. 10 of Mukerjee explicitly shows a temporal process. See Mukerjee, FIG. 10, lines 27-38.

Furthermore, neither references contains any discussion whatsoever of selecting the results of a temporal or a spatial process in accordance with an a posteriori criterion. The Examiner notes that selection of such a mode may occur based on an efficiency evaluation using one or more of the motion vector modes. However, motion vectors belong to temporal concealment processes. Thus, Mukerjee clearly only makes reference to selection between different temporal modes.

Mukerjee and/or Hannuksela 1, taken alone or in combination, fail to disclose or suggest performing temporal and spatial-direct modes derivation processes and selecting the results of one of the temporal and spatial-direct modes derivation processes in accordance with at least one a posteriori criterion.

The failure of an asserted combination to teach or suggest *each and every feature* of a claim remains fatal to an obviousness rejection under 35 U.S.C. § 103. Section 2143.03 of the MPEP requires the "consideration" of every claim feature in an obviousness determination. To render a claim unpatentable, however, the Office must do more than merely "consider" each and every feature for this claim. Instead, the asserted combination of the patents must also teach or suggest *each and every claim feature. See In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) (emphasis added) (to establish *prima facie* obviousness of a claimed invention, all the claim features must be taught or suggested by the prior art). Indeed, as the Board of Patent Appeal and Interferences has recently confirmed, a proper obviousness determination

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requires that an Examiner make "a searching comparison of the claimed invention—*including all its limitations*—with the teaching of the prior art." *See In re Wada and Murphy*, Appeal 2007-3733, citing *In re Ochiai*, 71 F.3d 1565, 1572 (Fed. Cir. 1995) (emphasis in original).

As described above, the cited art fails to disclose or suggest all of the recited elements of claims 3, 4, 6, 13, 14, and 16. Therefore, claims 3, 4, 6, 13, 14, and 16 recite patentable subject matter separate and apart from that recited in the independent claims

Claims 1 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,744,924 to Hannuksela et al. (hereinafter "Hannuksela 2") in view of Hannuksela 1.

Claim 1 recites, *inter alia*, "predicting the at least one missing or corrupted data for the identified macroblock by motion compensating data from both the first previously transmitted picture and a second previously transmitted reference picture." Claim 10 recites analogous language. The Examiner asserts that Hannuksela 2 teaches this element by through its two frame stores, 40a and 40b. The Examiner further argues that FIG. 3 of Hannuksela 2 discloses this feature, asserting the use of both of frame P2 and frame P3 to correct corrupted frame dP4.

With respect to frame stores 40a and 40b, applicants have fully addressed this issue in their previous response. To summarize, Hannuksela 2 makes clear that frame stores 40a and 40b do not in any way imply the use of multiple previous images in correcting a particular frame's errors. Instead, the frame stores serve to store the images of the respective threads. *See* Hannuksela 2, col. 10, lines 54–60. Nowhere does Hannuksela 2 contain any indication whatsoever that prediction takes place using multiple previous images.

With respect to the Examiner's more recent assertions, the text of Hannuksela 2 does not support the Examiner's interpretation of FIG. 3. Hannuksela 2 states, "[T]he corrupted areas of frame dP4 are concealed by using a unidirectional interpolation scheme utilizing frame P3 of the uncorrupted thread 10a." Col. 7, lines 19–21. There is no mention whatsoever of employing P2, or any other previous frame, in addition to P3.

As noted in detail above, Hannuksela 1 cannot cure the deficiencies of Hannuksela 2 with respect to this feature. Therefore, Hannuksela 1 and/or 2, taken alone or in combination, fail to disclose or suggest predicting missing or corrupted data by motion compensating data from both the first previously transmitted picture and a second previously transmitted reference

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picture. For this reason, claims 1 and 10 warrant allowance. Applicants request reconsideration of the rejection.
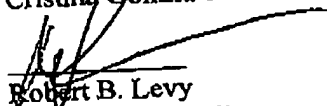
Conclusion

In view of the foregoing, applicants solicit entry of this amendment and allowance of the claims. If the Examiner cannot take such action, the Examiner should contact the applicant's attorney at (609) 734-6820 to arrange a mutually convenient date and time for a telephonic interview.

No fees are believed due with regard to this Amendment. Please charge any fee or credit any overpayment to Deposit Account No. **07-0832.**

Respectfully submitted,
Cristina Gomila et al.

By:

Robert B. Levy
Attorney for Applicants
Reg. No. 28,234
Phone (609) 734-6820

Patent Operations
Thomson Licensing LLC
P.O. Box 5312
Princeton, New Jersey 08543-5312
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